Ethnic Segregation and Perceived Discrimination in College: Mutual Influences and Effects on Social and Academic Life[1]

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This study examined relationships among same-ethnicity friendships, perceptions of ethnic discrimination, and social and academic adjustment in college using a large longitudinal sample of White, Asian, Latino, and African American students. Results demonstrated that Latino students who had more in-group friends during college exhibited reduced belonging and academic performance at the end of college. Perceived discrimination also had negative effects on Latino students' sense of belonging. For African American students, having more in-group friends during college was related to enhanced academic commitment and motivation at the end of college. Perceiving more discrimination was also associated with enhanced academic motivation for African American students. Explanations for the divergent experiences of the two minority groups on campus are discussed.

Recent census figures underscore the dramatic increase in ethnic diversity that has taken place in the United States. For example, the Latino population grew a striking 59% between 1990 and 2000, surpassing African Americans as the largest minority group in the U.S. (Belsie, 2001). Census data also showed gains in every other ethnic category except for Whites, although these gains were more modest in character than those seen in the Latino population. So significant were these gains that Whites no longer represent a numerical majority in some cities across the country

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(U.S. Census Bureau, 2001). Moreover, these gains are expected to increase in coming years, with the largest increases projected for the Asian/Pacific Islander and Latino populations.

One must be cautious when speaking about diversity solely in numerical terms, however, as the more challenging aspect of diversity is its management. Successful management of diversity involves fully integrating minorities into a society, organization, or institution (Berry, 1997; Brewer, von Hippel, & Gooden, 1999).

The concept of managing diversity has garnered significant attention in the organizational development field. Much of this attention has focused on the benefits of valuing diversity for employee satisfaction and performance (Milliken & Martins, 1996; Van Knippenberg & Haslam, 2003; Williams & O'Reilly, 1998). This perspective views successful management of diversity as maximizing the ability of employees to contribute effectively to the organization and realize their full potential, unhindered by barriers related to group membership, such as ethnicity and gender (Cox, 1994).

Brewer et al. (1999) offered a similar definition of integration from a social psychological perspective. This perspective views integration as a lack of conflict for minorities between their identities as members of a demographic group and their identification with, commitment to, and achievement in an institution. Much of this literature on diversity management has focused on how colleges and universities have attempted to manage diversity.

Despite good-faith efforts at diversification, many colleges and universities are still struggling to manage diversity. Although such efforts have led to an increased presence of students of color on campuses, they remain largely segregated by ethnicity. Such *ethnic enclaving* or *ethnic clustering*—that is, the tendency for ethnic groups to be socially distanced from one another on campus—is a growing concern on many college campuses (Broadway & Flesch, 2000; Cristostomo, 2001; McDermott, 2002).

One of the more recent studies examining ethnic segregation patterns in students' friendship choices in college found nearly 43% of students indicating interaction patterns reflective of such segregation (McCormack, 1996; see also Antonio, 1998). Those who have expressed concerns about these patterns view segregation as a barrier to integration on campus. Moreover, they fear that ethnic clustering leads to increased ethnocentrism and racial intolerance on campus, and that it can foster negative attitudes toward the university (D'Souza, 1991). Others, however, have argued that some students, especially students of color on predominantly White campuses, may seek friends of their own ethnic group in order to gain refuge from a hostile campus racial climate (Hurtado, Milem, Clayton-Pedersen, & Allen, 1998,

1999; Loo & Rolison, 1986). Ethnically similar peers then may go on to have positive effects on academic adjustment and performance in college, especially for African American students for whom the hostile climate is most salient (Griffin, 1991).

The focus of the current study is to examine the longitudinal effects of in-group friendships on perceptions of discrimination on campus, as well as the effects of such friendships on social and academic adjustment in college. These issues will be studied in the context of a highly selective and diverse university.

Other work using the data examined in the current study has found strong in-group friendship patterns: Students of all ethnic groups indicated that their closest friends on campus were more likely to be members of their ethnic group than another ethnic group (Levin, Van Laar, & Sidanius, 2003). Moreover, this previous research has found that during their second and third years of college, students tended to have more friends of their own ethnicity when they perceived more ethnic discrimination on campus at the end of the first year.

In the current study, we refer to this tendency to seek in-group friends in response to perceived ethnic discrimination as the *peer support hypothesis*. We build on this prior work in three important ways. First, we explore whether in-group friendships, in addition to forming as a result of perceived discrimination on campus (Levin et al., 2003), also promote the development of these negative perceptions of the campus climate; a prediction we term the *peer socialization hypothesis*. We also examine the effects of in-group friendships on social and academic adjustment on campus. If minority students gain academic and social support within same-ethnicity friendship groups, these friendships may serve to enhance students' academic commitment, motivation, and performance, although they also may reduce students' sense of belonging to the larger campus community. We refer to this prediction as the *ethnic segregation hypothesis*. Finally, beyond the effects of in-group friendships on social and academic adjustment, we also explore whether perceptions of discrimination on campus harm students' social and academic outcomes; a prediction we refer to as the *hostile climate hypothesis*.

Peer Support Hypothesis

Consistent with our previous work (Levin et al., 2003; Sidanius, Van Laar, Levin, & Sinclair, 2004), some view minority student participation in ethnic enclaves as a form of self-preservation resulting from experiences with discrimination on predominantly White campuses (McCormack, 1996). Minority college students often report experiencing greater levels of

alienation and prejudice than their White counterparts, and perceive the predominantly White campus environment to be unsupportive of minority students (Loo & Rolison, 1986; Nora & Cabrera, 1996; Sedlacek, 1999).

Such *minority-status stresses*, as they have been called, can have detrimental effects on minority students' sense of belonging on predominantly White campuses (Rodriguez, Myers, Morris, & Cardoza, 2000; Smedley, Myers, & Harrell, 1993). Belonging to an ethnic organization on campus can be viewed as an effective coping strategy to deal with such stresses, providing students of color with comfort zones in an environment that can, at times, feel hostile (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002; Sidanius et al., 2004). Others agree that membership in ethnic organizations and spending time with members of one's in-group provide critical social support for students of color who find themselves in culturally unsupportive environments (Hurtado et al., 1998, 1999; Loo & Rolison, 1986; Oyserman, Gant, & Ager, 1995; Oyserman & Harrison, 1998; Oyserman, Harrison, & Bybee, 2001). Hence, it may be that students develop in-group friendships as a coping strategy to deal with perceptions of ethnic discrimination on campus.

Peer Socialization Hypothesis

However, this relationship may operate in the opposite direction as well: In-group friendships may enhance perceptions of ethnic discrimination. One mechanism responsible for such negative perceptions of the campus climate may be the socialization process to which students are exposed when they have more friends of their own ethnic group. For instance, Chickering and Reisser (1993), in their work on education and student development, suggested that peer groups serve as an anchor and a reference point for thinking and behavior, and define norms for relating to the larger campus community (see also Chickering, 1969). Their work is based in part on the seminal work of Feldman and Newcomb (1969), whose study of the impact of college on students included an in-depth look at the socialization functions that peer groups serve.

One of these functions includes providing emotional support to peers, as well as serving as a comparative reference group against which one judges and evaluates one's own behavior. Moreover, not only do peer groups provide such comparative reference points, they also function as a normative membership group in which students exert reciprocal influences on one another and in which shared norms form the basis of the peer group's power over individual members. When students do change their attitudes or values,

it is usually toward the actual or perceived values and attitudes held by the group, rather than away from them. If perceived discrimination is viewed as normative within the group, then students' beliefs regarding the hostile racial climate can become reinforced, leading to greater perceptions of discrimination on campus.

It is also possible that in-group friendships may enhance perceptions of ethnic discrimination through increased ethnic identification. In their work investigating the influence of ethnic segregation on the well-being of African American college students, Postmes and Branscombe (2002) found that segregation can be beneficial in terms of providing African American students with a greater sense of belonging and solidarity with their in-group. Other work has shown that increased levels of minority-group identification can lead individuals to interpret outcomes and events in intergroup terms, which can lead to increased perceptions of discrimination (Ellemers, Spears, & Doosje, 1997; Guimond & Dube-Simard, 1983; Klandermans, 1997). Taken together, these findings suggest that in-group friendships may enhance in-group identification, and this in-group identification may lead to increased perceptions of discrimination.

Ethnic Segregation Hypothesis

Despite the negative perceptions of the campus climate and reduced feelings of institutional belonging that may result from in-group friendships, there is also evidence that these friendships can have salutary effects on students' later social and academic adjustment on campus. For example, Gilliard (1996) found that participation in racially focused cultural activities was associated with greater levels of overall social involvement, increased informal interactions with faculty, and greater use of campus support services. Membership in ethnic enclaves also can lead to increased academic adjustment and performance. For example, Griffin (1991) found that membership in same-ethnicity groups was associated with increased academic performance for some African American college students, and that having African American roommates also was related to increased academic performance for some of these students. Griffin argued that participation in ethnic organizations creates a system of peer support that is associated with persistence in college.

However, some evidence has suggested that the benefits received from membership in ethnic enclaves may not be experienced equally by students of all ethnic groups (Brewer et al., 1999). In fact, African Americans may be especially likely to benefit, as compared to other minorities. This evidence stands in stark contrast to the racelessness hypothesis, which assumes that

academic achievement for African Americans must come at the cost of distancing themselves from their ethnic communities, or achieving racelessness (see Fordham, 1988; Fordham & Ogbu, 1986).

On the contrary, in a study of students attending a large multiethnic university, Brewer et al. (1999) found that preference for one's own ethnic group, while being correlated negatively with institutional belonging, was related positively to academic commitment for African Americans (although this relationship was not statistically significant). However, among Latinos, in-group preference was significantly negatively related to academic commitment. These findings suggest that the benefits received from participation in ethnic enclaves may depend on one's ethnic group membership, and the social position of that ethnic group on campus and in society at large.

Other research has found further mixed support for the racelessness hypothesis. For instance, Arroyo and Zigler (1995) found that participants who tend to score high on self-esteem as it relates to their racial group membership also tend to value education and to believe in the utility of a college education. These results are important because they indicate that African American participants who have positive feelings associated with membership in their ethnic group also tend to believe in the value of education, rather than disidentifying with academics.

Sellers, Chavous, and Cooke (1998) found similar results regarding the relationship between ethnic identification and academic performance by studying what they call *racial centrality* in a group of African American students. They define racial centrality as the extent to which individuals define themselves normatively with regard to race (or ethnicity). As such, it is a measure of whether race is a core part of one's self-concept. Findings from Sellers et al.'s research show that African American participants high on racial centrality tended to exhibit higher academic performance (as measured by grade point average [GPA]). Additional measures showed that endorsement of ideologies that de-emphasize the importance of race was not related to academic success, and that endorsement of assimilationist ideologies—those that emphasize connections with the mainstream and the importance of assimilating—was associated with lower academic performance.

Oyserman and colleagues (Oyserman et al., 1995, 2001; Oyserman & Harrison, 1998) also found evidence for the importance of ethnic identity in the achievement of African American students, especially when this ethnic identity engenders a sense of connectedness to other African Americans, an awareness of racism or structural barriers, and achievement as centrally connected to being an African American. These studies suggest that racelessness may not be an effective strategy for African American college students.

Hostile Climate Hypothesis

Despite the positive effects of group identification on students' well-being, experiences with perceived discrimination on campus still can exert direct negative effects on well-being. Indeed, as Branscombe, Schmitt, and Harvey (1999) found, the tendency to make attributions to prejudice exerted a direct negative effect on the psychological well-being of African American students (even though these attributions to prejudice also increased minority-group identification, which in turn enhanced well-being).

Other research has found that negative stereotypes about African American and Latino students' intellectual ability can compromise their adjustment in college (Steele, 1997). Many students of color enter institutions of higher education with heightened concerns over their academic preparedness, facing questions about the legitimacy of their presence on campus, particularly at selective institutions. They possess, as Goffman (1963) proclaimed, a "spoiled identity." Steele (1997; Steele & Aronson, 1995) referred to the pervasiveness of such stereotypes as a "threat in the air," a threat that, under certain circumstances, can depress academic performance, even when a student not only possesses the competence and skills to do well, but also believes in his or her own ability and has not internalized the negative stereotype. Perceptions of discrimination, racism, and a hostile campus climate can be thought of collectively as *minority-status stresses*, and represent an additional burden not typically borne by White students (Smedley et al., 1993).

The debilitating effects of minority-status stresses on the academic performance and persistence of minority college students is supported by the work of Smedley et al. (1993), who found that poor interracial relations and experiences of racism on campus were significantly negatively associated with academic achievement among a sample of freshman minority students. A more recent study (Nora & Cabrera, 1996) reported similar findings, showing that perceptions of discrimination can exert significant, direct negative effects on minority students' academic and intellectual development, and indirect negative effects on students' GPAs. Other studies have found evidence for more direct negative effects of perceptions of discrimination on grades (Nettles, 1988).

Similar research examining the effects of perceived discrimination and ethnic tension on the adjustment of Latino students to campus life has shown that such experiences can have a depressing effect on students' academic adjustment (Lopez, 1995). For instance, in a study of Latino student adjustment in students' first and second years of college, Hurtado, Carter, and Spuler (1996) found that overt experiences with discrimination, as well

as perceptions of racial/ethnic tension on campus negatively impacted Latino students' academic and social adjustment.

The Present Study

The present study explores the relationships among in-group friendships, perceptions of discrimination, and social and academic adjustment in college using a longitudinal sample of White, Asian, Latino and African American students. Data were collected during the summer before college entry and at the end of students' first through fourth years of college. Previous research using this data set has revealed that, during their second and third years of college, students of all ethnicities tended to have the highest proportion of close friends from their own ethnic group. Support for the peer support hypothesis was found as well: Perceptions of discrimination at the end of students' first year of college were positively associated with in-group friendships during their second and third years (Levin et al., 2003).

The current study examines the reverse causal direction in the peer socialization hypothesis: According to the literature on peer socialization effects, the more friends students have of their own ethnicity at the end of their first year of college, the more they may tend to make attributions to discrimination against themselves and other members of their ethnic group during their second and third years. One explanation for this effect is that in-group friendships lead to increased levels of group identification, which themselves lead individuals to interpret outcomes and events in intergroup terms and therefore to perceive greater levels of discrimination (Ellemers et al., 1997; Guimond & Dube-Simard, 1983; Klandermans, 1997). In order to test this explanation, we will examine whether ethnic identification mediates the relationship between in-group friendships and perceived discrimination.

In the ethnic segregation hypothesis, we examine whether having more friends of one's own ethnicity during the second and third years of college is associated with reduced feelings of institutional belonging and enhanced academic commitment, motivation, and performance at the end of the fourth year. Finally, in the hostile climate hypothesis, we will examine whether perceptions of ethnic discrimination during students' second and third years of college will have independent negative effects on these social and academic adjustment measures at the end of college, once the effects of in-group friendships on these outcome variables have been taken into account.

We expect to find that Latinos and African Americans, the most underrepresented and negatively stereotyped ethnic groups on campus, will exhibit the strongest relationships among these variables. We will examine

the relationships separately for each group, as some evidence has suggested that the predictors and effects of in-group friendship preferences may vary across ethnic groups as a result of their differential social position on campus and in society at large (Brewer et al., 1999). Although our main hypotheses concern Latinos and African Americans, we will examine the results for White and Asian American students as well.

Method

Participants

Data for this longitudinal study were collected among entering freshman students at a large multiethnic university beginning in 1996. Of the 3,877 students beginning their freshman year at this university in Fall 1996, 32% were White, 36% were Asian American, 18% were Latino, 6% were African American, and 8% were another ethnicity or did not report their ethnicity. Data were collected during five different time periods between 1996 and 2000.

During the summer before college entry (1996), data were collected through the mass administration of a survey at a series of summer orientation workshops. During the spring quarter of each subsequent academic year (1997–2000), data were collected through telephone interviews. At the first wave of data collection, surveys were administered to the 2,749 summer orientation attendees who were at least 18 years of age or who had written parental consent to participate in the study.

All of the students who returned the summer survey were eligible to participate in the second wave of data collection during the end of freshman year, except for 179 White and Asian American students with incomplete data or missing contact information. Because of the low number of Latinos and African Americans who attended summer orientation, 471 Latino and African American students who had not participated in the summer wave were added to the sampling frame at the freshman wave.

The sampling frames at the end of the sophomore through senior years consisted of all students who completed the interview at the end of freshman year (in addition to 51 African American and biracial students who were added at the end of junior year). Response rates were as follows: 78% at the pre-college wave ($N = 2{,}156$), 82% at the end of freshman year ($N = 2{,}016$), 83% at the end of sophomore year ($N = 1{,}667$), 66% at the end of junior year ($N = 1{,}360$), and 59% at the end of senior year ($N = 1{,}215$).

The ethnic breakdown ranged from 748 Whites and 753 Asian Americans in the pre-college sample to 311 Whites and 389 Asian Americans at the end of senior year. There were 255 Latinos in the pre-college sample, and the number ranged from 430 at the end of freshman year to 252 at the end of

senior year. Comparable numbers for African Americans were 68 in the pre-college wave, 130 at the end of freshman year, and 67 at the end of senior year. The gender breakdown ranged from 44% females in the pre-college wave to 56% females at the end of senior year (for ethnic and gender breakdowns of all participants in each year of data collection, see Levin et al., 2003).

Measures

For this article, measures of in-group friendships and perceptions of ethnic discrimination were included at three different time periods: pre-college, at the end of freshman year (Year 1), and at the end of sophomore and junior years (an average of Years 2–3). Levels of ethnic identification were assessed pre-college and in every college year. Measures of students' feelings of belonging on campus and their academic commitment, motivation, and performance were included twice: the end of freshman and senior years (Years 1 and 4).

In-group friendship variables. Pre-college friendships were measured by four items. The stem question read "In high school, how many of your closest friends were …?" and the individual items were "Asian American," "African American," "Latino," and "Caucasian." The items were rated on a 5-point scale (1 = none, 2 = few, 3 = many, 4 = most, 5 = all). The measure of pre-college in-group friends is the single item for friends of one's own ethnic group. The college friendship variables were measured by the same four items in Years 1 to 3. The stem question read "At [this university], how many of your closest friends are … ?" and the individual items were "Asian American," "African American," "Latino," and "Caucasian," which were rated on the same 5-point scale mentioned previously. The measure of Year 1 in-group friends is the single item for friends of one's own ethnic group at the end of the first year of college. The composite measure of Year 2–3 in-group friends is the average of the in-group friends items measured in the second and third years of college.

Perceived discrimination variables. Perceived ethnic discrimination on campus was computed as the average of two items measured on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*): "I experience discrimination at [this university] because of my ethnicity" and "Other members of my ethnic group experience discrimination on campus." The perceived discrimination scales exhibited adequate reliability in the pre-college wave ($\alpha = .90$), Year 1 ($\alpha = .87$), and in the composite measure of Year 2–3 ($\alpha = .88$).

Ethnic identification variables. Ethnic identification was computed as the average of the following three items: "How important is your ethnicity to

your identity?'' which was rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very important*); ''How often do you think of yourself as a member of your ethnic group?'' which was rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very often*); and ''How close do you feel to other members of your ethnic group?'' which was rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very close*). The mean reliability across the five waves of data was quite high for a three-item scale ($\alpha = .84$).

Social and academic adjustment variables. Institutional belonging was measured by a single variable, which was rated on a 7-point scale ranging from 1 (*strong sense of exclusion*) to 7 (*strong sense of belonging*): ''To what degree do you experience a sense of exclusion or a sense of belonging at [this university]?''. Academic commitment was measured by a single variable, which was rated on a 7-point scale ranging from 1 (*very likely*) to 7 (*not at all likely*): ''How likely is it that you would consider dropping out of [this university] before earning a degree?'' Academic motivation was measured by a single variable, which was rated on a 7-point scale ranging from 1 (*not at all important*) to 7 (*very important*): ''How important is it for you to get a high GPA at [this university]?'' Academic performance was measured by two items that were standardized on 7-point scales: ''How well are you doing in school, compared to other students at [this university]?'' which was rated from 1 (*not as well as most*) to 7 (*better than most*) and ''What is your cumulative GPA at [this university]?''

The academic performance scales exhibited adequate reliability both in Year 1 ($\alpha = .82$) and Year 4 ($\alpha = .78$). The social and academic adjustment variables were not related strongly to one another and thus were examined separately in all analyses (average interitem correlations = .18 for Whites, .16 for Asian Americans, .22 for Latinos, and .13 for African Americans).

Results

Peer Support and Peer Socialization Hypotheses

According to the peer socialization hypothesis, the more friends that students have of their own ethnicity at the end of freshman year (Year 1), the more they will perceive discrimination against themselves and other members of their ethnic group during their sophomore and junior years (Years 2 and 3). In order to test this hypothesis, we examine the effect of Year 1 in-group friendships on Year 2–3 perceptions of discrimination, controlling for pre-college perceived discrimination at the first step in a hierarchical regression equation. This allows us to see if perceptions of

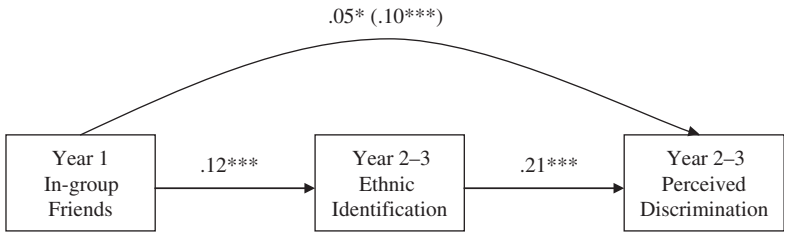
discrimination are related to prior in-group friends, even when we take into account pre-existing differences between students in their perceptions of discrimination.

Because we are interested in examining the unique contribution of Year 1 in-group friendships in predicting Year 2–3 perceptions of discrimination, we report the standardized regression coefficient (β coefficient) for Year 1 in-group friendships. In the next step, we enter the main effect of ethnicity into the equation; and in the last step, we enter the interaction between ethnicity and Year 1 in-group friendships. Because of the different sample sizes for each ethnic group, we also conducted separate regression analyses for each group and examined the unstandardized regression coefficients (*b* coefficients) for the effect of Year 1 in-group friendships.

Consistent with the peer socialization hypothesis, the results indicate that students who had more friends of their own ethnicity at the end of their first year in college perceived more ethnic discrimination during their second and third years, even when controlling for pre-college perceived discrimination ($\beta = .10$, $p < .001$); overall model, $F(2, 1245) = 70.82$, $p < .001$ ($R^2_{\text{adj.}} = .10$). After ethnicity was entered into the equation, the Ethnicity × In-group Friends interaction terms did not add a significant amount of explained variance ($R^2\Delta = .003$, $p = .17$). However, the separate analyses for each ethnic group indicate that African American students who had more in-group friends at the end of their first year in college were especially likely to perceive more discrimination on campus during their second and third years (African Americans: $b = .52$, $p = .005$; Latinos: $b = .21$, $p = .02$; Asian Americans: $b = .14$, $p = .01$; Whites: $b = .15$, $p = .03$).

Together with the results reported by Levin et al. (2003), these findings indicate that the direction of causality between perceptions of discrimination and in-group friendships may operate in both directions: Consistent with the peer support hypothesis, negative perceptions of the campus climate at the end of freshman year may lead members of different ethnic groups, especially African Americans, to have more in-group friends during their sophomore and junior years (Levin et al., 2003). Consistent with the peer socialization hypothesis, having more in-group friends at the end of freshman year may lead students, especially African Americans, to perceive more ethnic discrimination on campus during their sophomore and junior years.

In order to examine whether the effect of in-group friends on perceived discrimination is mediated by ethnic identification, we conducted three additional analyses: (a) We regressed ethnic identification in Years 2 and 3 on in-group friends in Year 1, controlling for pre-college ethnic identification; (b) we regressed perceived discrimination in Years 2 and 3 on ethnic identification in Years 2 and 3, controlling for pre-college perceived



Note: Path entries are standardized regression coefficients. The number that appears in parentheses is the direct effect controlling for pre-college perceived discrimination only. Sobel mediation test, $z = 4.60$, $p < .001$.
* $p < .05$. *** $p < .001$.

Figure 1. Direct and indirect positive effects of in-group friends on perceived discrimination through increased ethnic identification among Whites, Asian Americans, Latinos, and African Americans (controlling for pre-college levels of discrimination and identification).

discrimination and in-group friends in Year 1; and (c) we examined whether the direct effect of in-group friends in Year 1 on perceived discrimination in Years 2 and 3 (controlling for pre-college perceived discrimination) declined in magnitude when the effect of ethnic identification in Years 2 and 3 was taken into account.

The results of these analyses are shown in Figure 1 and are consistent with the notion that ethnic identification partially mediates this effect (Sobel mediation test, $z = 4.60$, $p < .001$). Specifically, the results indicate that students who had more friends of their own ethnicity at the end of their first year in college had higher levels of ethnic identification during their second and third years, even when controlling for pre-college ethnic identification ($\beta = .12$, $p < .001$); overall model, $F(2, 1262) = 502.27$, $p < .001$ ($R^2_{\text{adj.}} = .44$; $R^2\Delta$ for the Ethnicity $\times$ In-group Friends interaction $= .003$, $p = .06$; African Americans: $b = .41$, $p = .002$; Latinos: $b = .27$, $p < .001$; Asian Americans: $b = .29$, $p < .001$; Whites: $b = .14$, $p = .05$).

Furthermore, students who had higher levels of ethnic identification during their second and third years also perceived higher levels of ethnic discrimination, even when controlling for pre-college perceived discrimination and Year 1 in-group friends ($\beta = .21$, $p < .001$); overall model, $F(3, 1242) = 68.88$, $p < .001$ ($R^2_{\text{adj.}} = .14$; $R^2\Delta$ for the Ethnicity $\times$ Ethnic Identification interaction $= .003$, $p = .24$; African Americans: $b = .13$, $p = .51$; Latinos: $b = .21$, $p = .004$; Asian Americans: $b = .09$, $p = .04$; Whites: $b = .10$, $p = .02$). Finally, when levels of ethnic identification in Years 2 and 3 were taken into account, the direct effect of in-group friends at the end of Year 1 ($\beta = .10$, $p < .001$; $R^2\Delta$ for the Ethnicity $\times$ In-group

Friends interaction = .003, $p = .17$; African Americans: $b = .52$, $p = .005$; Latinos: $b = .21$, $p = .02$; Asian Americans: $b = .14$, $p = .01$; Whites: $b = .15$, $p = .03$) declined in magnitude but was still statistically significant ($\beta = .05$, $p = .05$; $R^2\Delta$ for the Ethnicity × In-group Friends interaction = .004, $p = .15$; African Americans: $b = .47$, $p = .02$; Latinos: $b = .10$, $p = .34$; Asian Americans: $b = .10$, $p = .09$; Whites: $b = .13$, $p = .06$).

Sobel mediation tests conducted separately for each ethnic group indicate that ethnic identification was a significant mediator for Latino and Asian American students only (Latinos: $z = 2.29$, $p = .02$; Asian Americans: $z = 1.97$, $p = .05$; African Americans: $z = 0.65$, $p = .51$; Whites: $z = 1.56$, $p = .12$). Among these students, heightened ethnic identification is clearly a key factor in understanding the relationship between having more in-group friendships and perceiving more discrimination against their ethnic group.

Ethnic Segregation Hypothesis

We turn now to the measure of the subsequent effects of in-group friendships during students' second and third years in college on their social and academic adjustment at the end of their fourth year.[3] Here, we seek to answer the question of whether students become more alienated but more academically committed, motivated, and successful at the end of college when they have more in-group friendships during their second and third years in college, even when controlling for their first-year levels of belonging, commitment, motivation, or performance, respectively. This allows us to see if Year 4 social and academic adjustment are associated with having more in-group friends in Year 2–3, even when we take into account already existing differences between students in their levels of social and academic adjustment. We then examine whether these relationships vary across the different ethnic groups.

In this series of hierarchical regression analyses, we use belonging and academic commitment, motivation, and performance measured in Year 4 as our dependent variables (one in each analysis). At the first step, we enter the composite measure of in-group friendships in Years 2 and 3 into the equation, along with the social or academic adjustment variable measured in Year 1. In the next step, we enter the main effect of ethnicity; and in the last

[3]We cannot measure the effects of in-group friendships during Year 1 on adjustment in Year 4 (controlling for pre-college adjustment) because of the small number of African Americans who participated in both the pre-college wave of data collection and the final wave ($n = 23$).

step, we enter the interaction between ethnicity and Year 2–3 in-group friendships. Again, we also examine the effect of Year 2–3 in-group friendships separately for each ethnic group.

Belonging. Regarding belonging, the results indicate that although overall students who had more in-group friends in their second and third years of college did not feel any stronger or weaker feelings of belonging at the end of their fourth year ($\beta = -.03$, $p = .39$); overall model, $F(2, 968) = 77.33$, $p < .001$ ($R^2_{adj.} = .14$), the Ethnicity × In-group Friends interaction term was significant ($R^2\Delta = .01$, $p = .002$). Separate regression analyses for each ethnic group indicate that results supported the ethnic segregation hypothesis for Latinos only: Latino students who had more in-group friends during their second and third years in college were the only ones to feel a reduced sense of belonging at the end of their fourth year (Latinos: $b = -.28$, $p = .001$; African Americans: $b = -.08$, $p = .62$; Asian Americans: $b = .05$, $p = .46$; Whites: $b = .13$, $p = .15$).

Academic commitment. Consistent with the ethnic segregation hypothesis, the results for academic commitment indicate that students who had more friends of their own ethnicity during their second and third years in college were more committed to staying in school at the end of their fourth year, even when controlling for first-year academic commitment ($\beta = .08$, $p = .02$); overall model, $F(2, 965) = 16.09$, $p < .001$ ($R^2_{adj.} = .03$). After ethnicity was entered into the equation, the Ethnicity × In-group Friends interaction terms did not add a significant amount of explained variance ($R^2\Delta = .01$, $p = .14$). However, the separate regression analyses for each ethnic group reveal marginally significant positive effects for African American and Asian American students only (African Americans: $b = .30$, $p = .07$; Asian Americans: $b = .10$, $p = .06$; Latinos: $b = -.02$, $p = .82$; Whites: $b = .13$, $p = .17$).

Academic motivation. Similar results were found for academic motivation. Students who had more friends of their own ethnicity during their second and third years in college were more motivated to get a high GPA at the end of their fourth year, even when controlling for first-year academic motivation ($\beta = .07$, $p = .02$); overall model, $F(2, 970) = 96.20$, $p < .001$ ($R^2_{adj.} = .16$). After ethnicity was entered into the equation, the Ethnicity × In-group Friends interaction terms did not add a significant amount of explained variance ($R^2\Delta = .002$, $p = .55$). However, the separate regression analyses for each ethnic group indicate that African American students who had more in-group friends during their second and third years in college were the only ones to exhibit significantly stronger academic motivation at the end of their fourth year (African Americans: $b = .33$, $p = .04$; Latinos: $b = .08$, $p = .45$; Asian Americans: $b = .05$, $p = .54$; Whites: $b = .15$, $p = .13$).

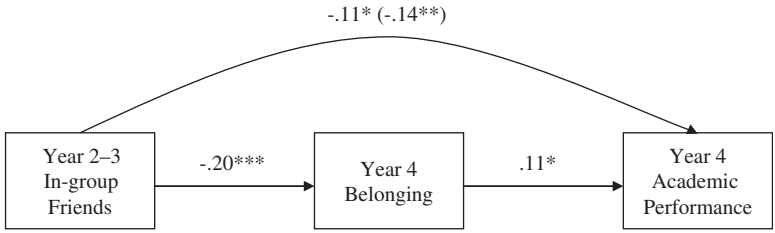
Academic performance. Contrary to the ethnic segregation hypothesis, the results for academic performance reveal negative effects of in-group friendships for Latinos. In these analyses, the average academic performance of students in each major was entered as an additional covariate at Step 1 in order to control for the effects of differences in GPA by college major (although adding this as a covariate did not alter the results in any meaningful way).

The results indicate that although students who had more in-group friends in their second and third years of college did not exhibit any better or worse academic performance overall at the end of their fourth year in college ($\beta = -.04$, $p = .15$); overall model, $F(3, 968) = 244.16$, $p < .001$ ($R^2_{\text{adj.}} = .43$), the Ethnicity × In-group Friends interaction term was marginally significant ($R^2\Delta = .004$, $p = .08$). Separate regression analyses for each ethnic group indicate that Latino students who had more in-group friends during their second and third years exhibited significantly lower academic performance at the end of their fourth year (Latinos: $b = -.17$, $p = .01$; African Americans: $b = -.10$, $p = .31$; Asian Americans: $b = -.02$, $p = .74$; Whites: $b = .06$, $p = .31$).

Summary. Overall, these results indicate that Latinos exhibited both reduced feelings of belonging and reduced academic performance at the end of college when they had more friends of their own ethnicity during college. African American students, on the other hand, exhibited marginally significant increases in academic commitment and significant increases in academic motivation at the end of college when they had more in-group friends during college.

If academic success in college is related positively to degree of integration into the larger campus community—as Steward, Germain, and Jackson (1992) suggested may be the case for Latino students—we would expect feelings of belonging and academic commitment, motivation, and performance to be related positively for these students. However, if—as Steward, Jackson, and Jackson (1990) suggested—even African American students who succeed academically remain alienated from the larger campus community, we would expect feelings of belonging to be less related to academic commitment, motivation, and performance for African American students than for White, Latino, and Asian American students. Post hoc analyses support this line of reasoning.

The correlations between belonging on the one hand and academic commitment, motivation, and performance on the other were consistently more positive for Latinos than for African Americans (for academic commitment, Latinos' $r = .30$, $p < .001$ and African Americans' $r = .06$, $p = .65$; for academic motivation, Latinos' $r = .13$, $p = .05$ and African Americans' $r = -.21$, $p = .10$; for academic performance, Latinos' $r = .17$,



Note: Path entries are standardized regression coefficients. The number that appears in parentheses is the direct effect controlling for Year 1 academic performance only.
Sobel mediation test, $z = -1.68$, $p = .09$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 2. Direct and indirect negative effects of in-group friends on academic performance through reduced belonging among Latinos (controlling for performance and belonging in Year 1).

$p = .01$ and African Americans' $r = .11$, $p = .40$). In most cases, these correlations were even more positive for Latinos than for Whites and Asian Americans (for academic commitment, Whites' $r = .14$, $p = .02$ and Asian Americans' $r = .13$, $p = .01$; for academic motivation, Whites' $r = .15$, $p = .01$ and Asian Americans' $r = .08$, $p = .11$; for academic performance, Whites' $r = .05$, $p = .36$ and Asian Americans' $r = .12$, $p = .02$).

Because of this overlap between feelings of belonging and academic performance for Latinos, we might expect that part of the reason why Latino students with more in-group friends do not perform as well academically is because they feel more alienated from the larger campus community. As shown in Figure 2, having more in-group friends during Years 2 and 3 had a marginally significant indirect effect on reduced academic performance in Year 4 for Latinos through reduced belonging in Year 4 (Sobel mediation test, $z = -1.68$, $p = .09$; for the effect of Year 2–3 in-group friends on Year 4 belonging, controlling for Year 1 belonging, $\beta = -.20$, $p = .001$; and for the unique effect of Year 4 belonging on Year 4 performance, controlling for Year 1 performance and Year 2–3 in-group friends, $\beta = .11$, $p = .05$). However, having more in-group friends during Years 2 and 3 also had a clear negative effect on academic performance in Year 4 that was independent of feelings of belonging ($\beta = -.11$, $p = .05$).[4]

[4]We also tested the opposite direction of causality and found that the reverse effect of Year 4 academic performance on Year 4 belonging (controlling for Year 1 belonging and Year 2-3 in-group friends) was not statistically significant ($\beta = .08$, $p = .15$), nor was the mediated effect of Year 2-3 in-group friends on Year 4 belonging through Year 4 academic performance (Sobel mediation test, $z = -1.26$, $p = .21$).

Hostile Climate Hypothesis

According to the hostile climate hypothesis, when we control for these effects of in-group friendships on social and academic adjustment, we will find independent negative effects of perceptions of discrimination during students' second and third years of college on their social and academic adjustment at the end of their fourth year. Here, we seek to answer the question of whether students become more alienated and less academically committed, motivated, and successful at the end of college when they perceive more discrimination during their second and third years in college, when controlling for Years 2–3 in-group friendships and Year 1 levels of belonging, commitment, motivation, or performance, respectively. This allows us to see if Year 4 social and academic adjustment are associated with perceiving more discrimination in Years 2 and 3 even when we take into account already existing differences between students in their in-group friendships and previous levels of social and academic adjustment.

As in the previous series of hierarchical regression analyses, we use belonging and academic commitment, motivation, and performance measured in Year 4 as our dependent variables. At the first step, we enter the composite measure of Year 2–3 perceived discrimination into the equation, along with Year 2–3 in-group friendships and the social or academic adjustment variable measured in Year 1. In the next step, we enter the main effect of ethnicity; and in the last step, we enter the interaction between ethnicity and Year 2–3 perceived discrimination. Again, we also examine the effect of Year 2–3 perceived discrimination separately for each ethnic group.

Belonging. Consistent with the hostile climate hypothesis, the results for belonging indicate that students who perceived more discrimination during their second and third years in college felt a reduced sense of belonging at the end of the fourth year, even when controlling for Year 2–3 in-group friendships and Year 1 belonging ($\beta = -.14$, $p < .001$); overall model, $F(3, 967) = 59.52$, $p < .001$ ($R^2_{\text{adj.}} = .15$). After ethnicity was entered into the equation, the Ethnicity × Perceived Discrimination interaction was marginally significant ($R^2\Delta = .01$, $p = .07$).

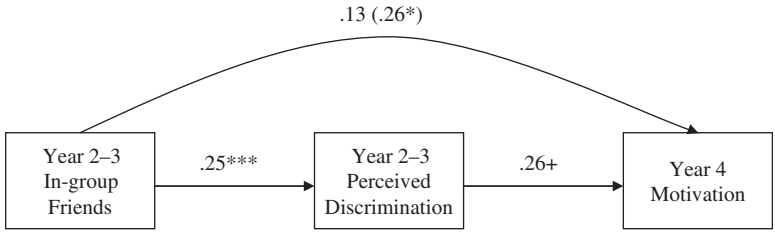
The separate regression analyses for each ethnic group indicate that Latino and White students who perceived more discrimination during their second and third years were the only ones to exhibit significantly reduced feelings of belonging on campus at the end of their fourth year (Latinos: $b = -.18$, $p = .001$; Whites: $b = -.13$, $p = .02$; Asian Americans: $b = -.04$, $p = .39$; African Americans: $b = .04$, $p = .76$). Coupled with the results from the ethnic segregation hypothesis, these findings reveal that both in-group friends and perceived discrimination had negative effects on belonging among Latinos. When considered together in the same regression analysis,

the negative effects of both Year 2–3 in-group friends ($\beta = -.14$, $p = .02$) and Year 2–3 perceived discrimination ($\beta = -.19$, $p = .001$) on Year 4 belonging (controlling for Year 1 belonging) were statistically significant for Latinos.

Academic commitment. Weaker support for the hostile climate hypothesis was found for academic commitment. Overall, students who perceived more discrimination during their second and third years in college were less committed to staying in school at the end of their fourth year, but this effect was only marginally significant ($\beta = -.06$, $p = .09$); overall model, $F(3, 964) = 11.71$, $p < .001$ ($R^2_{\text{adj.}} = .03$). After ethnicity was entered into the equation, the Ethnicity × Perceived Discrimination interaction was not significant ($R^2\Delta = .01$, $p = .20$), and none of the separate regression analyses for each ethnic group showed a significant effect of perceived discrimination (Whites: $b = -.01$, $p = .93$; Asian Americans: $b = .001$, $p = .99$; Latinos: $b = -.09$, $p = .15$; African Americans: $b = -.17$, $p = .19$).

Academic motivation. Interestingly, the results for academic motivation contradicted the hostile climate hypothesis. Overall, there was no effect of perceived discrimination during students' second and third years on their academic motivation at the end of the fourth year ($\beta = -.03$, $p = .27$); overall model, $F(3, 969) = 64.56$, $p < .001$ ($R^2_{\text{adj.}} = .16$). After ethnicity was entered into the equation, the Ethnicity × Perceived Discrimination interaction was not significant ($R^2\Delta = .01$, $p = .12$). However, the separate regression analyses for each ethnic group indicate that African American students who perceived more discrimination during their second and third years actually exhibited stronger motivation to get a high GPA at the end of the fourth year, controlling for Year 2–3 in-group friends and Year 1 academic motivation (African Americans: $b = .24$, $p = .06$; Latinos: $b = .01$, $p = .92$; Asian Americans: $b = -.07$, $p = .21$; Whites: $b = -.02$, $p = .71$).

Coupled with the results from the ethnic segregation hypothesis, these findings reveal that both in-group friends and perceived discrimination had positive effects on academic motivation among African Americans. When considered in separate regression analyses, the effects of both in-group friends ($\beta = .26$, $p = .04$) and perceived discrimination ($\beta = .32$, $p = .01$) were statistically significant. However, when considered together in the same regression analysis, the effect of perceived discrimination remained marginally significant ($\beta = .26$, $p = .06$), but the positive effect of in-group friends became nonsignificant ($\beta = .13$, $p = .33$). As shown in Figure 3, these results suggest that the positive direct effect of having more in-group friends on academic motivation among African Americans ($\beta = .26$, $p = .04$) is partially a result of the greater perceptions of discrimination stimulated by such friendships (Sobel mediation test, $z = 1.69$, $p = .09$; for the effect of Year 2–3 in-group friends on Year 2–3 perceived discrimination, controlling for



Note: Path entries are standardized regression coefficients. The number that appears in parentheses is the direct effect controlling for Year 1 motivation only.
Sobel mediation test, $z = 1.69$, $p = .09$.
+ $p = .06$. * $p < .05$. *** $p < .001$.

Figure 3. Direct and indirect positive effects of in-group friends on academic motivation through increased perceptions of discrimination among African Americans (controlling for motivation and discrimination in Year 1).

Year 1 perceived discrimination, $\beta = .25$, $p = .001$; and for the effect of Year 2–3 perceived discrimination on Year 4 motivation, controlling for Year 1 motivation and Year 2–3 in-group friends, $\beta = .26$, $p = .06$).

In line with Branscombe et al.'s (1999) findings that perceptions of discrimination have an indirect positive effect on African Americans' psychological well-being through increased ethnic identification, we also examined the separate effects of perceptions of discrimination on ethnic identification, and of ethnic identification on academic motivation. We found that although perceptions of discrimination in Years 2 and 3 had a positive effect on ethnic identification for African Americans in Year 4 (controlling for ethnic identification in Year 1, $\beta = .33$, $p = .002$), ethnic identification in Year 4 did not have a significantly positive effect on academic motivation in Year 4 (controlling for academic motivation in Year 1 and perceived discrimination in Years 2 and 3, $\beta = -.05$, $p = .71$). We also found that the positive direct effect of perceived discrimination in Years 2 and 3 on academic motivation in Year 4 for African Americans ($\beta = .32$, $p = .01$) remained significant when we controlled for ethnic identification in Year 4 ($\beta = .34$, $p = .01$). It thus appears that perceptions of discrimination have positive effects on academic motivation for African Americans that are not a result of increasing levels of ethnic identification (Sobel mediation test, $z = -.37$, $p = .71$).

Academic performance. The results for academic performance also failed to support the hostile climate hypothesis. Overall, perceived discrimination during students' second and third years was unrelated to their academic performance at the end of the fourth year, controlling for the average

academic performance of students in each major (although adding this covariate did not alter the results in any meaningful way), for Year 2–3 in-group friends, and for Year 1 academic performance ($\beta = -.02$, $p = .35$); overall model, $F(4, 967) = 183.32$, $p < .001$ ($R^2_{adj.} = .43$). After ethnicity was entered into the equation, the Ethnicity × Perceived Discrimination interaction was not significant ($R^2\Delta = .001$, $p = .60$), and none of the separate regression analyses for each ethnic group showed a significant effect of perceived discrimination (Whites: $b = .02$, $p = .65$; Asian Americans: $b = .01$, $p = .79$; Latinos: $b = .02$, $p = .71$; African Americans: $b = -.01$, $p = .93$).

Summary. Overall, these results demonstrate the protective effects of having more in-group friends and perceiving more ethnic discrimination for African American students, and the negative effects of these variables for Latino students' academic and social adjustment in college. Specifically, Latino students who had more friends of their own ethnicity during their second and third years of college exhibited reduced feelings of belonging and academic performance at the end of the fourth year in college, even when controlling for previous levels of social and academic adjustment. Furthermore, perceiving discrimination during college had additional negative effects on Latino students' sense of belonging on campus at the end of college, beyond the negative effects of having in-group friends.

For African American students, however, having more friends of their own ethnicity during their second and third years of college was associated with enhanced academic commitment and motivation at the end of the fourth year in college, even when controlling for previous levels of commitment and motivation. Moreover, perceiving discrimination during college had additional positive effects on African American students' academic motivation at the end of college, and reduced the overall positive effect of having in-group friends. This hints that in-group friendships may have an indirect positive effect on academic motivation by increasing perceived discrimination, which enhances African American students' drive to succeed academically. These results highlight important differences between Latino and African American students in how they respond to having in-group friends and perceiving discrimination, and in how their feelings of belonging to the larger campus community relate to their academic commitment, motivation, and performance.

Discussion

Growing ethnic diversity in society and its institutions has prompted concern over increased segregation of individuals according to ethnic background in both voluntary and involuntary groups within social, educational, housing, and organizational settings. Some fear that such segregation will

have harmful effects on group and individual outcomes and on relationships between groups. Others argue that ethnic segregation is beneficial, in that it protects members of minority ethnic groups from the harmful effects of a hostile racial climate.

In the current study, we employed a longitudinal design to examine the positive and negative effects of in-group friendships among African American, Latino, Asian American, and White students at a large multiethnic university. Because the longitudinal design of the study allowed us to examine the effects of in-group friendships during college on social and academic outcomes at the end of college while controlling for preexisting differences between students in levels of the outcome variables, we were able to gain a better understanding of causal direction than that afforded by cross-sectional designs.

The results of a previous study suggest that students (especially African American students) tend to have more in-group friendships when they perceive more discrimination on campus (Levin et al., 2003). Building on the results for this peer support hypothesis, our peer socialization hypothesis examined the reverse effects of having more friends of one's own ethnicity on perceptions of discrimination, and the extent to which this relationship is mediated by ethnic identification.

Consistent with predictions, the findings show that, for students of all ethnic groups (especially African American students), having more in-group friends was associated with increased perceptions of discrimination against themselves and their ethnic group. Moreover, the effects of in-group friends on perceptions of discrimination were partially mediated by ethnic identification among students in general, particularly for Latino and Asian American students. That is, among these college students, having more in-group friends was related to stronger ethnic identification, and stronger ethnic identification was related to heightened perceptions of ethnic discrimination.

Thus, these results suggest that having more in-group friends may provide some students with a greater sense of in-group solidarity (see also Postmes & Branscombe, 2002), and increased identification with the in-group may lead these students to interpret outcomes and events in intergroup terms and, therefore, to perceive more discrimination based on their ethnic-group membership (see also Ellemers et al., 1997; Guimond & Dube-Simard, 1983; Klandermans, 1997). Other research we have conducted on this same sample examining the effects of membership in ethnic student organizations, including segregated White fraternities and sororities, shows that perceptions of ethnic victimization can develop in these segregated environments as well, also as a result of the in-group solidarity that these environments promote (Sidanius et al., 2004).

The results for the ethnic segregation hypothesis, however, show that such segregation is not necessarily negative. On the one hand, we were concerned that in-group friendships could lower the sense of belonging to the campus community and result in lower academic commitment, motivation, and performance. On the other hand, following previous research (Brewer et al., 1999; Gilliard, 1996; Griffin, 1991; Oyserman et al., 1995, 2001; Oyserman & Harrison, 1998; Postmes & Branscombe, 2002; Sellers et al., 1998), we expected that in-group friendships may provide an important buffer for minority students, allowing them to maintain academic commitment, motivation, and performance in a somewhat hostile campus setting (Griffin, 1991; Hurtado et al., 1998, 1999; Loo & Rolison, 1986).

The results support this buffering effect for African American students, showing that in-group friends appeared to have positive effects, if anything, on their academic commitment and motivation. The positive effects of in-group friends on academic commitment and motivation fit with existing research on African American students at colleges with large African American populations, which show that these students are less likely to drop out of college (Abramowitz, 1976; Allen, 1986; Blackwell, 1982) and are more satisfied when there are more African American students in the environment (e.g., Allen & Haniff, 1991; Astin, 1993; Fleming, 1984; Gurin & Epps, 1975; Thomas, 1984). Marginally significant results for Asian American students also indicate that they show more academic commitment when they have more in-group friends. As a group, Asian American students perform very well academically and show high academic commitment on campus. It is not surprising, then, that more association with Asian American friends is related to stronger commitment to staying in college.

However, having more in-group friends had negative effects on Latino students' sense of belonging to the larger campus community and on their academic performance. Among Latino students, feelings of belonging and academic performance were positively related. Oliver, Rodriguez, and Mickelson (1985) also found that alienation from general campus life was a significant predictor of poor academic performance among Latino students, but not among African American students. The researchers speculated that Latinos' ties to the university structure may provide them with a sense of comfort and security that enables the positive expression of their academic abilities. The researchers hypothesized that because they are more similar to Whites in speech, dress, and physical appearance than are African Americans and, therefore, do not necessarily signal their non-White status to the extent that African American students do, Latino students are able to integrate more smoothly into predominantly White campuses. The more Latino students integrate into general campus life, the better they perform academically.

The positive relationship we found between feelings of belonging and academic performance among Latinos is also consistent with the model of academic achievement and adjustment developed by Tinto (1975), which argues that students in general are more likely to succeed in higher education when they are well integrated into the social and academic structure of the university. However, in contrast to these results for Latinos, our findings for African Americans indicate that their academic success is not dependent on feelings of belonging to the larger campus community. These results mirror those of Steward et al. (1990), who found that successful African American students tended to be detached from campus life. In fact, some successful African American students even felt that such detachment was a necessity for academic success.

Our findings also show that Latino students felt a greater sense of alienation from general campus life when they had more in-group friendships, and this undermined their academic performance. These results are consistent with previous work by Steward et al. (1992) showing that for Latino students, the experience of alienation on campus could be decreased through the development of intimate relationships with Whites. However, Steward et al. (1990) found that for African American students, interaction with other African Americans did not correlate significantly with alienation from the campus. These results support Loo and Rolison's (1986) thesis that relationships with other African Americans do not influence African American students' feelings of alienation from campus in general in a way that harms their academic outcomes. Rather, through in-group friendships, African American students may feel well integrated into their own ethnic subculture, which can then provide the social integration necessary for academic success.

Finally, we examined the hostile climate hypothesis, investigating the potential effects of a hostile climate on students' sense of belonging, as well as their academic commitment, motivation, and performance (Hurtado et al., 1996; Loo & Rolison, 1986; Lopez, 1995; Nettles, 1988; Nora & Cabrera, 1996; Rodriguez et al., 2000; Sedlacek, 1999; Smedley et al., 1993). Interestingly, White students showed a hostile climate effect, with perceptions of discrimination against themselves and other Whites on campus negatively relating to feelings of belonging to the campus community. These results fit a pattern in which higher perceived victimization against Whites leads these students to perceive the campus less as one community, and more as made up of separate groups (Gaertner & Dovidio, 2000).

Latino students also showed a hostile climate effect, with perceptions of discrimination negatively relating to feelings of belonging. These results replicate findings that Oliver et al. (1985) reported two decades earlier,

indicating that Latino students who experienced ethnic discrimination on campus felt more alienated than those who did not (and this relationship was especially strong for Latinos with an upper social class background). Also, as was the case in our study, this previous research did not find a significant relationship between perceived discrimination and feelings of alienation among African American students.

Although we found that perceptions of discrimination on campus had negative effects on Latino and White students' feelings of belonging to the campus community, and slight negative effects on commitment to stay in college among students in general, there were no overall negative effects for the student body on motivation and performance. In fact, African American students actually showed stronger motivation to get a high GPA when they perceived more discrimination against themselves and their ethnic group. The ability to explain away negative experiences and outcomes through external causes and, therefore, to remove negative implications for the self, seems to allow African American students to maintain high motivation (also see Van Laar, 2000, 2001).

These findings also fit with those of Oyserman and colleagues (Oyserman et al., 1995, 2001; Oyserman & Harrison, 1998), who showed in a number of studies that awareness of racism and structural barriers, as well as a sense of connection to other African Americans, are essential elements of achievement strategies among African American students. It appears, then, that when confronted with perceptions of discrimination, African American students are showing a challenge response (coping resources outweigh task requirements), rather than a threat response (task requirements outweigh coping resources; Tomaka, Blascovich, Kelsey, & Leitten, 1993; also see Drach Zahavy & Erez, 2002; Skinner & Brewer, 2002).

In conclusion, these results highlight important differences among African American and Latino students in how they may respond to having in-group friends and perceiving discrimination. African American students showed positive effects of associating with in-group friends on academic commitment and motivation. Also, as African American students perceived more discrimination targeting themselves and their ethnic group on campus, they actually showed higher motivation to perform well in college.

The effects of Latino students having in-group friends and perceiving discrimination were more negative, with more in-group friends and perceptions of discrimination relating to lower feelings of belonging to the campus community, and more in-group friends relating to reduced academic performance. These results suggest the importance of examining not only whether ethnic segregation occurs, but what processes develop within these segregated contexts.

The effects of ethnic segregation on social and academic outcomes clearly depend on student ethnicity, with students in minority ethnic groups (e.g., Latinos) who more resemble the prototypical White majority group showing negative effects to the extent that they are segregating away from this majority group; and students who are less able to avoid signaling their non-White status (e.g., African Americans) showing more positive effects on social and academic outcomes to the degree that they are segregating away from the majority group (also see Oliver et al., 1985). Future research should examine the extent to which the different positions of African American and Latino students in the social structure are indeed responsible for the differential results.

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